

## Student Information

Name: \_\_\_\_\_ OSU ID: \_\_\_\_\_ New to OSU: \_\_\_\_\_

Phone: \_\_\_\_\_ Email (*name.number@osu.edu*): \_\_\_\_\_

## Suggested Curriculum

This should be used as a **guide** only. Semester offerings are subject to change. **Courses shown in bold lettering are offered only in the semesters indicated.**

Year	Autumn	Spring
1	___ ENGR 1100 ( <i>Engineering Survey</i> ) ..... 1 hr ___ ENGR 1181 ( <i>Fundamentals of Engr 1</i> ) ..... 2 hr ___ MATH 1151 ( <i>Calculus 1</i> ) ..... 5 hr ___ PHYSICS 1250 ( <i>Mechanics, Thermal, Waves</i> ) ..... 5 hr ___ General Education ..... 3 hr	___ ENGR 1182 ( <i>Fundamentals of Engr 2</i> ) ..... 2 hr ___ MATH 1172 ( <i>Engineering Math A</i> ) ..... 5 hr ___ CHEM 1250* ( <i>Chemistry for Engineers</i> ) ..... 4 hr ___ General Education ..... 3 hr
2	___ MATSCEN 2010 ( <i>Intro to Engr Materials</i> ) ..... 3 hr ___ MATH 2177 ( <i>Ord &amp; Part Diff Eq</i> ) ..... 4 hr ___ PHYSICS 1251 ( <i>E&amp;M, Optics, Modern Phys</i> ) ..... 5 hr ___ CHEM 2310* ( <i>Intro Organic Chemistry</i> ) ..... 4 hr (see Chem note below)	___ <b>MATSCEN 2241</b> ( <i>Struc &amp; Characterization</i> ) ..... 3 hr ___ <b>MATSCEN 2331</b> ( <i>Struc &amp; Char Lab</i> ) ..... 2 hr ___ <b>MATSCEN 2251</b> ( <i>Materials &amp; Thermo</i> ) ..... 3 hr ___ <b>MATSCEN 2321</b> ( <i>Modeling &amp; Sim 1</i> ) ..... 3 hr ___ General Education ..... 3 hr ___ General Education ..... 3 hr
3	___ MECHENG 2040 ( <i>Statics &amp; Mechanics</i> ) ..... 4 hr ___ <b>MATSCEN 3141</b> ( <i>Struc Transformations</i> ) ..... 3 hr ___ <b>MATSCEN 3151</b> ( <i>Transport &amp; Kinetics</i> ) ..... 3 hr ___ <b>MATSCEN 3331</b> ( <i>Materials Lab 1</i> ) ..... 2 hr ___ Technical Elective ( <i>see TE notes</i> ) ..... 3 hr ___ General Education ..... 3 hr	___ <b>MATSCEN 3261</b> ( <i>Mechanical Behav of Mats</i> ) ... 3 hr ___ <b>MATSCEN 3271</b> ( <i>Electronic Materials</i> ) ..... 3 hr ___ <b>MATSCEN 3321</b> ( <i>Modeling &amp; Sim 2</i> ) ..... 2 hr ___ <b>MATSCEN 3332</b> ( <i>Materials Lab 2</i> ) ..... 2 hr ___ Technical Elective ( <i>see TE notes</i> ) ..... 3 hr ___ General Education ..... 3 hr
4	___ <b>MATSCEN 4181</b> ( <i>Materials Selection</i> ) ..... 2 hr ___ <b>MATSCEN 4321</b> ( <i>Modeling &amp; Sim 3</i> ) ..... 3 hr ___ MATSCEN 4381 ( <i>Senior Design 1</i> ) ..... 3 hr ___ MATSCEN Elective ..... 3 hr ___ MATSCEN Elective ..... 3 hr ___ <b>MATSCEN Elective Lab</b> ..... 1 hr	___ MATSCEN 4382 ( <i>Senior Design 2</i> ) ..... 3 hr ___ MATSCEN Elective ..... 3 hr ___ MATSCEN Elective ..... 3 hr ___ General Education ..... 3 hr ___ General Education ..... 3 hr

**Total Hours to complete the degree program = 127**

\*Chem 1210 and Chem 1220 or Chem 1250 + 1220 may be used to fulfill Chemistry requirements.

**Please consult with academic advisor.**

## Program Options

MATSCEN Elective Lab, MATSCEN Electives, and Technical Electives are chosen based on student's interest and focus area in Materials. Generally, these can be: Biomaterials, Ceramics, Electronic Materials, Metallurgy, or Polymers.

## Acceptance Criteria

Admission to the major program requires a formal application and is based on a student's cumulative point-hour ratio (CPHR), eligibility point-hour ratio (EPhR), and additional admission to major courses.

EPhR courses: MATH 1151, 1172; ENGR 1181, 1182; CHEM 1250 or 1210; PHYSICS 1250; MATSCEN 2010; or course equivalents.

Additional admission to major courses not included in EPHR calculation: ENGLISH 1110. Applications are accepted during autumn and spring terms. The Materials Science and Engineering major courses begin each Spring Semester. Students admitted to the major will begin the major courses only in the Spring semester, regardless of whether they have applied in Autumn or Spring semesters.

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## MATSCEN and Technical Electives (TE)

Eighteen credit hours of electives are required, with **at least 12 credit hours coming from MATSCEN courses numbered 5000 or higher**. One MASTCEN 5000-level lab is also required. The remaining **six credit hours of TE** may be any graded course in Engineering, Math, Biological, or Physical Sciences numbered 3000 or higher. Exceptions and recommendations: for Electronic Materials, ECE 2300 (*Electrical Cir and Elect Devices*); for Biomaterials and Polymers, Chem 2310 or 2510 (*Organic Chemistry*), if not already used as core chemistry requirement; for Biomaterials only, BIOLOGY 1113 (*Biological Sci – Energy Transfer and Development*) or BIOLOGY 2100 (*Biological Analysis*).

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## General Education Requirement

### Writing and Communication

<u>English 1110.xx</u>	<u>3 hr</u>
<u>Second Writing Course</u>	<u>3 hr</u>

### Social Science

*Only one course per Social Science group may count.*

_____	<u>3 hr</u>
_____	<u>3 hr</u>

### Literature

_____	<u>3 hr</u>
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### Visual and Performing Arts

_____	<u>3 hr</u>
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### Historical Study

_____	<u>3 hr</u>
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### Second Historical Study or Cultures and Ideas

_____	<u>3 hr</u>
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### Social Diversity in the U.S. or Global Diversity

*Some courses may overlap with another GE category, See course list.*

_____	<u>0 / 3 hr</u>
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### Ethics

*Some courses may overlap with another GE category, See course list.*

_____	<u>0 / 3 hr</u>
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### Foreign Language

*Pre-approved substitutions*

**Foreign Language 1103 Course:** credit (including EM) for a foreign language sequence through 1103, or credit for a foreign language course with a prerequisite of 1103, can be used to satisfy the Cultures & Ideas Gen Ed category.

**Foreign Language Minor Courses:** completion of a foreign language minor permits a student to overlap up to 6 credit hours between the Gen Ed and minor. A curricular petition must be submitted to the student's program, which will forward it to the college for review. The courses must meet the spirit of the Gen Ed category for which overlap is requested.

### University Capstone (Cross-Disciplinary Seminar)

*Pre-approved substitutions*

Completion of a Social Science 3597 or 4597 can be substituted for a Social Science general education course in any group. Completion of an Arts & Humanities 3597 or 4597 can be substituted for a Visual/Performing Arts general education course.

See the list of approved general education courses for additional details: [www.advising.engineering.osu.edu](http://www.advising.engineering.osu.edu).